VOLUME 3: SAMPLING GUIDANCE

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What is Sampling?

Sampling is the act, process, or technique of selecting a representative part of a population for the purpose of determining parameters or characteristics of the whole population.

The Purpose of Sampling

Rarely is there time or money to talk to or contact every person, organization, or unit of analysis in a given region, community, organization, or network; consequently, choosing or sampling from a larger population is required as a way for a researcher to make relatively few observations and generalize from those observations to a much wider population.

Cost, staffing levels, and logistics often are practical key factors in determining sample size. If the study primarily aims to confirm that existing small-scale findings apply to the entire population, and to do so in a way that is statistically significant, there are acceptable statistical procedures for estimating how confidently this can be done for different sample sizes. If, however, the aim is to understand in depth how a given impact was achieved or to explore in-depth possible impacts, a much smaller sample size will probably be appropriate. Above all, sample sizes must be practical and appropriate for the information needed.

Methods of Sampling

Random Sampling:

- **Simple random sampling**: A group of people are selected at random from a complete list of a given population, in which each unit in the population has an equal chance of being selected.
- **Stratified or systematic random sampling**: this process ensures that sub-groups within a population are included in the sample by randomly sampling within each of these sub-groups.
- **Cluster sampling**: By selecting geographic clusters of villages or households within a given population, time and money are saved; this technique allows more people to be contacted in the time available.
- **Staged sampling**: For large populations one may need to sample within samples.
- **Random walk**: instructions are given to the interviewer to follow a random route and interview individuals, i.e., take first road right, interview at second house on left, continue down the road, interview every tenth house on your right, etc.

Non-random Sampling:

- **Quota sample**: Based on information about a population, quotas or certain types of people or organizations are selected for interview; common criteria for quotas are age, gender, occupation, and whether people live in project or non-project areas.
- **Genealogy-based sample**: Select entire families and their relatives rather than households.
- **Chain sampling or snowballing**: Select a first contact and then ask them who you should talk to next. This method is useful for identifying minority groups or occupations with communities.
- **Matched samples**: Similar pairs of villages, projects, or groups of people are selected to compare them (project groups and non-project groups for example).

Repeat Sampling Methods (random or non-random for initial selection):

- **Panel or cohort surveys**: A set of people or organizations is contacted several times over a period of time. This is for longitudinal studies.

For FTF, various sampling methods may be used depending on whether it is used for performance monitoring or impact evaluations, and quantitative or qualitative methodologies. For monitoring, forms of random sampling will likely be used, and cluster sampling may be the most cost-effective and useful form. Panel or cohort sampling should be used for impact evaluations where feasible.

Assessing the Quality of the Sample

Every effort should be made to ensure the right type of sampling is selected and developed for its intended use. Asking critical questions before and during data collection can help to guarantee quality sampling.
If the sample aims to be representative of a large population, the following questions should be addressed:

- Might certain types of participants be less likely to be selected then others?
- Could pragmatic criteria such as cost or time constraints introduce bias in the sample selection?
- Has anything occurred to make the sample atypical of the wider group?

If the sample's main purpose is to identify particular groups or people and to collect additional qualitative information, often critical to impact, other sampling questions might also be relevant:

- Does the sample cover those whose views and opinions are particularly important or sometimes overlooked, e.g., women, the poorest groups, or those who are geographically isolated?
- Whose views and opinions might not be covered by a given sample, and does their exclusion matter?
- Does the sample cover all groups likely to have differing opinions or views?
- Does the sample help us understand the linkages between interventions and impacts, or lack thereof?

Sample Size

Before deciding how large a sample should be, you have to define your study population. For example, a study population could be all the maize producers in Dodoma District Tanzania. The question of how large a sample should be is a difficult one. In general, sample size depends on the nature of the analysis to be performed, the desired precision of the estimates one wishes to achieve, the kind and number of comparisons that will be made, the number of variables that have to be examined simultaneously and how heterogeneous a universe is sampled. In quantitative studies, the representativeness is the important quality of a sample. Therefore, a key question that has to be answered is: "Does this sample represent the key characteristics of the population we are studying?" Missions should work with statistical experts, usually from local universities, who can provide technical expertise in developing a sampling frame that will be representative of the population that is being targeted.

Sampling under FTF

Under FTF, sampling will be done for both performance monitoring and impact evaluation data collection. Sampling methods and sample sizes may vary between monitoring and evaluation; however, samples will likely overlap between monitoring and impact evaluation for certain indicators, in certain places. Every effort should be made to integrate sampling and not duplicate data collection between monitoring and impact evaluations.

In each FTF focus country, multi-year strategy investments are being concentrated in selected geographic areas, referred to as the "Zone of Influence", and among a short-list of value-chains that can generate the largest poverty and nutrition impacts. The FTF goal and first level objectives (refer to the FTF Results Framework) have associated indicators that require the collection of population-based individual- and household-level data at the start of the FTF investments, mid-way through implementation, and at the end of the five-year implementation period. Many of those indicators and others will overlap with variables or indicators for impact evaluations that missions will undertake, and collection for those evaluation indicators will occur on the same schedule (beginning, mid-point, final).

For FTF activities, sampling will be used to generalize findings about a given group of people or organizations. For performance monitoring of higher-level standard indicators that are collected at the individual or household level, the population to be sampled is the population in the Zone of Influence (ZOI). Sampling conducted in the ZOII should be representative of its entire population in terms of important factors such as gender, ethnicity, class, or geographic placement (i.e., rural vs. urban). Once the unit of analysis for an indicator has been identified, the next step is to decide on an appropriate sample size based on the degree of sampling error that can be accepted.

A centrally-funded service provider (FEEDBACK) has been contracted to conduct household baseline surveys within several FTF focus countries. For all such surveys, it will be very important for missions to work closely with the BFS M&E team and the FEEDBACK or other contractor to define the population to be sampled and sampling methods for their multi-year strategy. This guidance is intended to provide a useful overview of best practices in sampling so missions understand its purpose and application.